

EPA Region 5 Records Ctr.



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**PRELIMINARY ASSESSMENT/
VISUAL SITE INSPECTION**

**NATIONAL CASTINGS INCORPORATED
MELROSE PARK, ILLINOIS
ILD 072 317 761**

FINAL REPORT

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MAY 04 1994

Prepared for

**U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Waste Programs Enforcement
Washington, DC 20460**

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EXECUTIVE SUMMARY

PRC Environmental Management, Inc. (PRC), performed a preliminary assessment and visual site inspection (PA/VSI) to identify and assess the existence and likelihood of releases from solid waste management units (SWMU) and other areas of concern (AOC) at the National Castings Incorporated (NCI) facility in Melrose Park, Cook County, Illinois. This summary highlights the results of the PA/VSI and the potential for releases of hazardous wastes or hazardous constituents from SWMUs and AOCs identified.

The NCI facility is a steel casting foundry where scrap steel is melted and refined in electric arc furnaces and poured into sand moldings. NCI supplies castings primarily to railroad manufacturing industries. The facility generates and manages hazardous baghouse dust (D006). The facility also generates and manages the following nonhazardous waste streams: used sand, baghouse dust, slag, waste firebrick, water and used oil mixture, trash, and rubbish. NCI has operated as a foundry at its current location since 1909. The facility occupies about 20 acres in an industrial and residential area and employs about 340 people.

Beginning in 1981, NCI was regulated as a generator and a treatment, storage, or disposal (TSD) facility of hazardous waste. On August 29, 1985, EPA withdrew the treatment process listed on NCI's Part A permit application because based on information the facility submitted to EPA, NCI had not mixed hazardous and nonhazardous waste since before November 19, 1980. On August 5, 1986, the NCI facility submitted a closure plan for the Former Hazardous Waste Storage Area (SWMU 2). On March 7, 1988, the Illinois Environmental Protection Agency (IEPA) approved NCI's closure plan and withdrew the facility's Part A permit application. Currently, the facility operates as a large-quantity generator.

The PA/VSI identified the following 11 SWMUs and no AOCs at the facility:

Solid Waste Management Units

1. Electric Arc Furnace Baghouse Dust Accumulation Area
2. Former Hazardous Waste Storage Area
3. Used Sand Accumulation Area
4. Moldings Baghouse Dust Collector

5. Used Sand Storage Piles
6. Slag Accumulation Area
7. Shot Cleaning Accumulation Areas
8. Air Compressor Used Oil Satellite Accumulation Area
9. Current Used Oil Storage Area
10. Former Used Oil Storage Area
11. Former Incinerator

No releases from the NCI facility have been documented. Based on the VSI and review of EPA, IEPA, and facility files, the potential for release from all SWMUs to groundwater, surface water, air, or on-site soils is low because all SWMUs operated with adequate release controls. All but two SWMUs manage nonhazardous waste. The Electric Arc Furnace Baghouse Dust Accumulation Area (SWMU 1) manages hazardous baghouse dust (D006) in a lined and covered 15-cubic-yard roll-off box. The Former Hazardous Waste Storage Area (SWMU 2) also managed hazardous baghouse dust (D006) in the past; however, this unit has been inactive since mid-1981 and was RCRA closed in 1988.

The nearest residence to the NCI facility is located 1 block east. The facility is surrounded by an 8-foot chain-link fence. A security guard is on site 24 hours a day. Groundwater in the area is used as a municipal water supply by the city of Bellwood, Illinois. Bellwood currently has three operating groundwater wells within a 2-mile radius of the NCI facility. The nearest surface water body, Addison Creek, is located about 600 feet west of the facility. The Des Plaines River is located about 1.6 miles east of the facility and is used for recreational purposes. The nearest sensitive environment, Thatcher Woods Forest Preserve, is located adjacent to the Des Plaines River.

PRC recommends that no further action be taken for any of the SWMUs at the NCI facility at this time.

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1.0 INTRODUCTION

PRC Environmental Management, Inc. (PRC), received Work Assignment No. R05032 from the U.S. Environmental Protection Agency (EPA) under Contract No. 68-W9-0006 (TES 9) to conduct preliminary assessments (PA) and visual site inspections (VSI) of hazardous waste treatment and storage facilities in Region 5.

As part of the EPA Region 5 Environmental Priorities Initiative, the RCRA and CERCLA programs are working together to identify and address RCRA facilities that have a high priority for corrective action using applicable RCRA and CERCLA authorities. The PA/VSI is the first step in the process of prioritizing facilities for corrective action. Through the PA/VSI process, enough information is obtained to characterize a facility's actual or potential releases to the environment from solid waste management units (SWMU) and areas of concern (AOC).

A SWMU is defined as any discernible unit at a RCRA facility in which solid wastes have been placed and from which hazardous constituents might migrate, regardless of whether the unit was intended to manage solid or hazardous waste.

The SWMU definition includes the following:

- RCRA-regulated units, such as container storage areas, tanks, surface impoundments, waste piles, land treatment units, landfills, incinerators, and underground injection wells
- Closed and abandoned units
- Recycling units, wastewater treatment units, and other units that EPA has usually exempted from standards applicable to hazardous waste management units
- Areas contaminated by routine and systematic releases of wastes or hazardous constituents. Such areas might include a wood preservative drippage area, a loading or unloading area, or an area where solvent used to wash large parts has continually dripped onto soils.

An AOC is defined as any area where a release of hazardous waste or constituents to the environment has occurred or is suspected to have occurred on a nonroutine and nonsystematic basis. This includes any area where a strong possibility exists that such a release might occur in the future.

The purpose of the PA is as follows:

- Identify SWMUs and AOCs at the facility
- Obtain information on the operational history of the facility
- Obtain information on releases from any units at the facility
- Identify data gaps and other informational needs to be filled during the VSI

The PA generally includes review of all relevant documents and files located at state offices and at the EPA Region 5 office in Chicago.

The purpose of the VSI is as follows:

- Identify SWMUs and AOCs not discovered during the PA
- Identify releases not discovered during the PA
- Provide a specific description of the environmental setting
- Provide information on release pathways and the potential for releases to each medium
- Confirm information obtained during the PA regarding operations, SWMUs, AOCs, and releases

The VSI includes interviewing appropriate facility staff; inspecting the entire facility to identify all SWMUs and AOCs; photographing all visible SWMUs; identifying evidence of releases; making a preliminary selection of potential sampling parameters and locations, if needed; and obtaining additional information necessary to complete the PA/VSI report.

This report documents the results of a PA/VSI of the National Castings Incorporated (NCI) facility (EPA Identification No. ILD 072 317 761) in Melrose Park, Cook County, Illinois. The PA was

completed on August 3, 1993. PRC gathered and reviewed information from the Illinois Environmental Protection Agency (IEPA), Illinois State Geological Survey (ISGS), U.S. Department of Agriculture (USDA), U.S. Department of Commerce (USDC), U.S. Geological Survey (USGS), and from EPA Region 5 RCRA files. The VSI was conducted on August 4, 1993. It included interviews with facility representatives and a walk-through inspection of the facility. PRC identified 11 SWMUs and no AOCs at the facility.

The VSI is summarized and 15 of the 25 inspection photographs taken are included in Appendix A. The photographs have been renumbered; thus, their numbers differ from the photograph numbers in the VSI field notes which are included in Appendix B.

2.0 FACILITY DESCRIPTION

This section describes the facility's location; past and present operations; waste generating processes and waste management practices; history of documented releases; regulatory history; environmental setting; and receptors.

2.1 FACILITY LOCATION

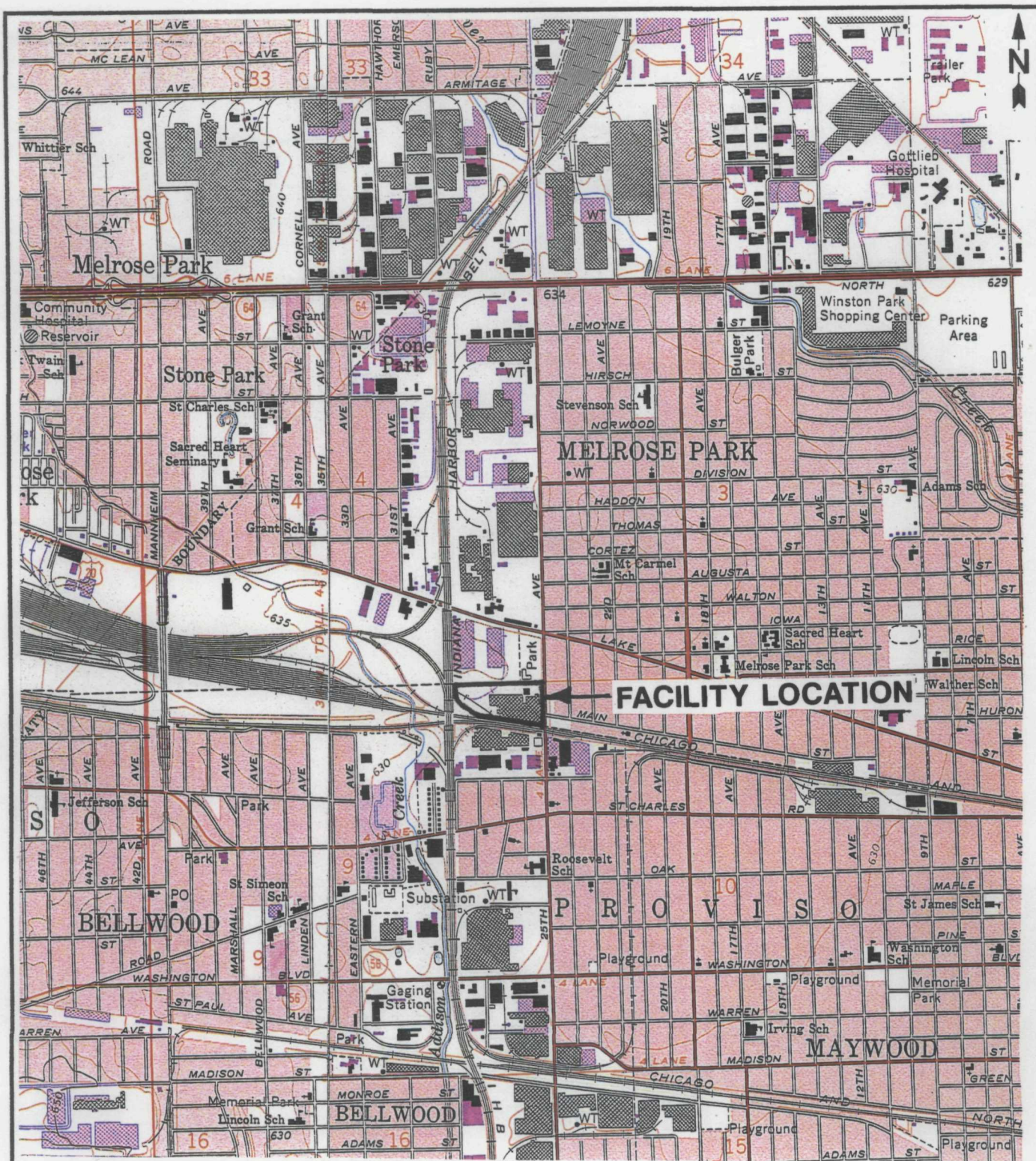
The NCI facility is located at 110 North 25th Avenue in Melrose Park, Cook County, Illinois. Figure 1 shows the location of the facility in relation to the surrounding topographic features (latitude 41° 53' 30" N and longitude 87° 52' 00" W) (Midland Ross 1981b). The facility occupies 20 acres in a mixed industrial and residential area.

The facility is bordered on the north by a Jewel Food Stores warehouse, on the east by 25th Avenue and a Public Storage warehouse, on the south by the C&NW Railroad and Handschy Industries, Incorporated, and on the west by an Indiana Harbor Belt Railroad yard (PRC 1993d).

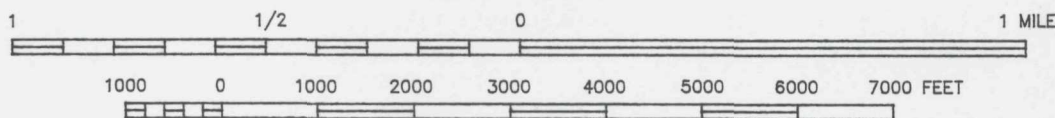
2.2 FACILITY OPERATIONS

The NCI facility is a steel casting foundry where scrap steel is brought in by railroad cars, melted and refined in an electric arc furnace, and poured into sand moldings. NCI supplies castings primarily to railroad manufacturing industries. The NCI facility has approximately 60,000 square feet of building space and occupies about 28 acres in an industrial and residential area. NCI employs about 340 people. Employees work three shifts, 5 days a week. The facility is surrounded by a chain-link fence. A security guard is on site 24 hours a day.

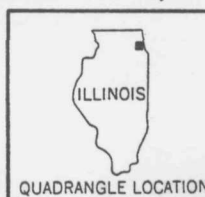
NCI has operated the facility since July 1985. From 1966 to 1985, the facility operated as the National Castings Division of Midland Ross Corporation. From 1909 to 1966, the facility was operated by the National Malleable Castings Company. The company changed its name twice during this period of time. In 1923, the company changed its name from National Malleable Castings Company to National Steel Castings Company and in 1961 it was changed to National Castings



SCALE 1:24000



SCALE: 1" = 2,000'



NATIONAL CASTINGS INCORPORATED
MELROSE PARK, ILLINOIS

FIGURE 1

FACILITY LOCATION

PRC ENVIRONMENTAL MANAGEMENT, INC.

NCI-MELDWG - 09/20/83 - M.L.B. 308-R05032L72

SOURCE: MODIFIED FROM USGS,
ELMHURST, ILLINOIS, QUADRANGLE, 1980
RIVER FOREST, ILLINOIS, QUADRANGLE, 1978

Company. Since 1909, the facility has operated as a foundry which produces steel castings. No information on land use prior to 1909 was available during the PA/VSI. The facility closed in December 1981 due to a lack of business. The facility reopened in December 1982 and has remained in operation since then.

During normal operations, the NCI facility generates hazardous (D006) and nonhazardous baghouse dust, used sand, slag, waste firebrick, a water and used oil mixture, trash, and rubbish. The baghouse dust from the electric arc furnace area has been regulated as a D006 hazardous waste since 1981. NCI also produces small amounts of used oil which is transported off site.

2.3 WASTE GENERATION AND MANAGEMENT

This section describes waste generation and management at the NCI facility. The facility's SWMUs are identified in Table 1. The facility layout, including SWMUs, is shown in Figure 2. The facility's waste streams are summarized in Table 2.

The NCI facility produces steel castings by melting scrap steel and pouring it into sand moldings. The scrap steel is melted in an electric arc furnace on site. Alloys are added to the scrap metal used to make castings. The process of melting the scrap steel results in a fine dust. The dust is collected by a baghouse located in the electric arc furnace area. The dust contains enough cadmium to be considered a D006 hazardous waste by EPA. The dust is collected at the Electric Arc Furnace Baghouse Dust Accumulation Area (SWMU 1). The dust is collected in a bag attached to the bottom of the baghouse. The bag is contained in an aluminum shed. When the bag is filled it is emptied into a plastic-lined, 15-cubic-yard roll-off box located adjacent to the aluminum shed. The roll-off box is covered securely with a tarpaulin. The facility generates about 250 cubic yards of D006 baghouse dust each year.

From March 1989 to August 1991 and since November 1992, Peoria Disposal Company (ILD 000 805 812) of Peoria, Illinois, has been contracted to remove the dust from the roll-off box when the roll-off box has filled (PRC 1993a). Peoria Disposal Company removes the dust from the roll-off box about once each month. From August 1991 to November 1992, the baghouse dust (D006) was

TABLE 1
SOLID WASTE MANAGEMENT UNITS

<u>SWMU Number</u>	<u>SWMU Name</u>	<u>RCRA Hazardous Waste Management Unit^a</u>	<u>Status</u>
1	Electric Arc Furnace Baghouse Dust Accumulation Area	No	Active; accumulation of D006 waste for less than 90 days storage
2	Former Hazardous Waste Storage Area	Yes	RCRA closed; closure approved by IEPA on March 7, 1988
3	Used Sand Accumulation Area	No	Active; accumulation of nonhazardous waste
4	Moldings Baghouse Dust Collector	No	Active; accumulation of nonhazardous waste
5	Used Sand Storage Piles	No	Active; storage of nonhazardous waste
6	Slag Accumulation Area	No	Active; accumulation of nonhazardous waste
7	Shot Cleaning Accumulation Areas	No	Active; accumulation of nonhazardous waste
8	Air Compressor Used Oil Satellite Accumulation Area	No	Active; accumulation of nonhazardous waste
9	Current Used Oil Storage Area	No	Active; storage of nonhazardous waste
10	Former Used Oil Storage Area	No	Inactive since 1992
11	Former Incinerator	No	Inactive since before 1980

Note:

- ^a A RCRA hazardous waste management unit is one that currently requires or formerly required submittal of a RCRA Part A or Part B permit application.

FENCE and PROPERTY BOUNDARY



25th STREET

PARKING AREA

UST

OFFICE

STORAGE

SWMU 3

SWMU 10

SWMU 11

SWMU 8

SWMU 9

SWMU 4

SWMU 6

SWMU 1

SWMU 7

SWMU 6

SWMU 5

SWMU 2

SOLID WASTE MANAGEMENT UNITS

- SWMU 1 ELECTRIC ARC FURNACE BAGHOUSE DUST ACCUMULATION AREA
- SWMU 2 FORMER HAZARDOUS WASTE STORAGE AREA
- SWMU 3 USED SAND ACCUMULATION AREA
- SWMU 4 MOLDINGS BAGHOUSE DUST COLLECTOR
- SWMU 5 USED SAND STORAGE PILES
- SWMU 6 SLAG ACCUMULATION AREA
- SWMU 7 SHOT CLEANING ACCUMULATION AREAS
- SWMU 8 AIR COMPRESSOR USED OIL SATELLITE ACCUMULATION AREA
- SWMU 9 CURRENT USED OIL STORAGE AREA
- SWMU 10 FORMER USED OIL STORAGE AREA
- SWMU 11 FORMER INCINERATOR

UST = UNDERGROUND STORAGE TANK



APPROXIMATE SCALE: 1" = 150'

FIGURE 2

FACILITY LAYOUT

NATIONAL CASTINGS INCORPORATED
MELROSE PARK, ILLINOIS

ENVIRONMENTAL MANAGEMENT, INC.

TABLE 2
SOLID WASTES

<u>Waste/EPA Waste Code^a</u>	<u>Source</u>	<u>Solid Waste Management Unit</u>
Baghouse dust/D006	Dust collection from electric arc furnace area	1 and 2
Used sand/NA	Moldings for steel castings	3, 5, and 7
Baghouse dust/NA	Dust collection from molding production and shot cleaning areas	3, 4, and 7
Slag/NA	Production of steel castings	6 and 7
Waste firebrick/NA	Steel ladle and arc furnace maintenance	6
Water and used oil mixture/NA	Air compressor and motor vehicle machine maintenance	8, 9, and 10
Trash and rubbish/NA	General facility activities	11

Notes:

^a Not applicable (NA) designates nonhazardous waste.

transported by American Waste Hauler (ILD 000 675 231) of Maywood, Illinois, to CID Landfill (ILD 010 284 248) in Calumet City, Illinois (PRC 1993a). From December 1981 to March 1989, the dust was removed by Browning Ferris Industries, Inc. (BFI), and went to Winthrop Harbor/BFI (ILD 180 011 843) in Zion, Illinois, for landfilling (PRC 1993a).

From late 1966 to November 1980, the facility mixed this baghouse dust with nonhazardous waste for disposal (Midland Ross 1981b). Beginning in November 1980, EPA informed the NCI facility that it could no longer mix D006 waste with nonhazardous waste resulting in a nonhazardous waste. The facility began storing D006 baghouse dust while searching for an appropriate disposal site. The D006 hazardous waste was stored in the Former Hazardous Waste Storage Area (SWMU 2) from November 1980 to mid-1981. SWMU 2 is located outdoors on the ground. The dust was stored in closed 55-gallon, steel drums. Drums were banded together in groups of four, were covered with plastic, and were placed on wooden pallets (NCI 1985). About 300 drums were stored at SWMU 2 (NCI 1985). After the 300 drums were removed from SWMU 2 in 1981, SWMU 2 no longer stored hazardous wastes. The facility closed for 1 year following drum removal from SWMU 2. When the facility reopened, hazardous D006 baghouse dust was managed at SWMU 1. RCRA closure for SWMU 2 was approved by IEPA on March 7, 1988 (IEPA 1988). Currently, three piles of railroad ties are stacked in the area of SWMU 2.

Moldings are used to form NCI's steel castings. The moldings are made of a mixture of sand and a small amount of bentonite. After a casting of the molding is made, a portion of the sand can be reused to make additional moldings without further treatment. Additional moldings are formed by mixing the used sand with new sand. Excess used sand which cannot be reused is stored at the Used Sand Storage Area (SWMU 3). SWMU 3 consists of three or four 20-cubic-yard roll-off boxes located outdoors on concrete. The NCI facility generates about 1,200 cubic yards of nonhazardous used sand monthly. BFI of Melrose Park, Illinois, has been contracted to remove the contents of SWMU 3. BFI removes used sand from the facility 5 days a week and transports it to Mallard Lake Landfill in Hanover Park, Illinois for landfilling (PRC 1993a).

The NCI facility has a second baghouse located in the moldings production area. Baghouse dust from this baghouse has never been considered a hazardous waste by EPA. Dust from the moldings production area is collected in plastic bags attached to the bottom of the baghouse at the Moldings

Baghouse Dust Collector (SWMU 4). The plastic bag is contained in a 1-cubic-yard hopper. When the bag is full, it is replaced, and the full bag is removed to SWMU 3 where it is disposed of by BFI along with excess used sand. The NCI facility generates about 20 cubic yards monthly of nonhazardous baghouse dust from the baghouse in the moldings area.

From 1991 to 1992, the NCI facility began accumulating used sand for economic reasons and in anticipation of the installation of a sand reclaiming unit. The facility accumulated the used sand at the Used Sand Storage Piles (SWMU 5) on site. SWMU 5 consists of two sand piles. One pile measures about 150- by 60- by 25-feet and is made of finer grained reusable sand which can be reused when the facility installs a sand reclaiming unit. The second pile measures about 300- by 150- by 35-feet and contains sand which cannot be reused by the facility. On April 30, 1992, IEPA collected samples from both sand piles. Analysis of these samples detected low levels of barium and chromium (IEPA 1992). IEPA requested no further action from the facility regarding the sand piles. The facility has begun disposal of the sand from the larger pile in small loads. During 1993, BFI disposed of about 75 15-cubic-yard loads of sand. The facility plans to continue disposal until the larger pile has been removed. Installation of a sand reclaiming unit is anticipated by the facility sometime in 1994 or 1995.

After a molding is made, a casting is produced by pouring molten metal into the molding. The metal is melted in an electric arc furnace and is poured into 20-ton capacity steel ladles lined with firebrick. Impurities in the metal float to the surface of the molten metal. Facility employees calculate the amount of impurities in the metal and pour off this portion into a concrete pit filled with water. The water in the pit evaporates and the impurities in the molten metal crystalize to form nonhazardous slag. The slag is removed from the pit and is placed in a 15-cubic-yard roll-off box, the Slag Accumulation Area (SWMU 6). SWMU 6 is located adjacent to the cooling pit. When the roll-off box is filled, the contents are disposed of by BFI. The NCI facility generates about 15 cubic yards of slag monthly.

A portion of the castings produced by NCI needs to be heat treated in one of nine gas furnaces on site. After being placed in the gas furnaces, the castings are water cooled. The facility has two on-site quench tanks used for this process. The tanks are made of steel and are located indoors. Each tank is about 15- by 20-feet and 15-feet deep. The quench tanks are part of a closed loop system.

Effluent from the tanks is not discharged. Effluent in the tank is pumped temporarily to a holding tank when slag accumulated in the bottom of each tank is removed. The slag generated by this process is disposed of at SWMU 6 along with slag generated from other facility processes.

The facility has six ladles used to pour molten metal into moldings. One of these ladles is rebricked with new firebrick about once every one or two months. In addition, the electric arc furnace used to melt the steel is also rebricked about once every year. These processes generate about 20 cubic yards of waste firebrick each year. The waste firebrick is disposed of in the roll-off box of SWMU 6 with slag.

After a casting has been produced, bits of slag and sand cling to the casting. To remove the slag and sand, the facility uses two shot cleaning machines. These machines bombard each casting with small steel pellets. Each machine has an associated baghouse. The process of cleaning the castings generates nonhazardous sand, slag, and baghouse dust which is collected at the Shot Cleaning Accumulation Areas (SWMU 7).

SWMU 7 consists of two 1-cubic-yard roll-off boxes, plastic bags attached to the bottom of two baghouses, and a 15-yard roll-off box. The sand and slag generated by the shot cleaning process are collected in a 1-cubic-yard hopper. The fine nonhazardous dust generated by the shot cleaning process is collected by a baghouse. The hopper which collects the sand and slag from each shot cleaning machine is located indoors on a concrete floor. The baghouse associated with each shot cleaning machine is located outdoors near the shot cleaning machine. Dust from each baghouse is collected in a plastic bag attached to the bottom of the baghouse. The plastic bag from one shot cleaning machine is contained in an aluminum shed. The baghouse dust from the second shot cleaning machine is discharged into a plastic bag contained in a 1-cubic-yard hopper located indoors. When the bags are full they are replaced and disposed of in a 15-cubic-yard roll-off box located outdoors adjacent to the aluminum shed housing the plastic bag of one of the baghouses. The sand and slag generated by the shot cleaning process and collected in 1-cubic-yard hoppers is also disposed of in the roll-off box. The contents of the roll-off box is disposed of by BFI. Each year, the facility generates about 130 cubic yards of baghouse dust, sand, and slag from the shot cleaning machines (PRC 1993a).

The NCI facility has an air compressor on site to power various equipment. Since 1990, there has been an oil leak in one of the compressor lines. The facility has not been able to determine where this leak originates. Therefore, beginning in 1990 the facility has been collecting a mixture of oil and water generated by the air compressor at the Air Compressor Used Oil Satellite Accumulation Area (SWMU 8). SWMU 8 consists of a closed, 55-gallon, steel drum located in an aluminum shed. Each month, the NCI facility generates about 300 gallons of this water and used oil mixture.

When the drum of SWMU 8 is filled, it is replaced and moved to the Current Used Oil Storage Area (SWMU 9). SWMU 9 is located indoors in a room where the floor is sunken to a level about 4 inches below the outside grade. Since 1992, the facility has been using SWMU 9 to store nonhazardous used oil generated from the air compressor and the small amount of nonhazardous used oil generated by motor vehicle maintenance. The facility has contracted SET Environmental Company (SET Environmental) (ILD 981 957 236) in Wheeling, Illinois, to remove the contents of drums at SWMU 9 as needed for recycling.

From 1990 to 1992, the facility stored its used oil from the air compressor and vehicle maintenance at the Former Used Oil Storage Area (SWMU 10). SWMU 10 was located outdoors on the ground and stored about 60 55-gallon, steel drums. In 1992, the facility had SET Environmental remove the drums for recycling. According to facility representatives, there were areas of stained soil in the area of SWMU 10. On April 30, 1992, IEPA collected a sample of the stained soil. Analysis of this sample detected low levels of several volatile organic compounds and barium (IEPA 1992). IEPA requested no further action from the facility regarding the stained soil. BFI removed and disposed of about 25 cubic yards of visibly stained and unstained soils in 1992 (PRC 1993d). Currently, the area of SWMU 10 is covered with clean gravel.

According to facility representatives, for an unknown period of time before 1980, the facility used the Former Incinerator (SWMU 11) to dispose of trash and rubbish generated at the facility. This unit was removed in 1991 or 1992. This unit was located outdoors.

2.4

HISTORY OF DOCUMENTED RELEASES

The NCI facility has no history of documented releases of hazardous wastes or hazardous constituents to groundwater, and surface water, air. A release to on-site soils from SWMU 10 has occurred. Analysis of this sample detected low levels of several volatile organic compounds and barium (IEPA 1992). IEPA requested no further action from the facility regarding the stained soil. BFI removed and disposed of about 25 cubic yards of visibly stained and unstained soils in 1992 (PRC 1993d).

2.5

REGULATORY HISTORY

The NCI facility submitted a Notification of Hazardous Waste Activity to EPA on November 17, 1980 (Midland Ross 1980). NCI submitted a second Notification of Hazardous Waste Activity to EPA on July 7, 1981 (Midland Ross 1981a). NCI submitted a RCRA Part A permit application on July 10, 1981 with a process code of T04 (treatment other than tank, surface impoundment, or incinerator) for 260 tons of D006 (cadmium) wastes annually (Midland Ross 1981b). The treatment process referred to in the facility's Part A permit application was the facility's mixing of D006 waste with nonhazardous waste resulting in a nonhazardous composite waste. This process was conducted while loading wastes into railroad cars (Midland Ross 1981b). NCI submitted a second RCRA Part A permit application on an unknown date in 1984 with process codes S01 (container storage) and T04 for 260 tons of D006 wastes annually (Midland Ross 1984a). Currently, the facility operates as a large-quantity generator.

Beginning in 1981, NCI was regulated as a generator and a treatment, storage, or disposal (TSD) facility of hazardous waste (Midland Ross 1981a). On August 29, 1985, EPA withdrew the treatment process listed on NCI's Part A permit application because based on information the facility submitted by the facility to EPA, NCI had not mixed hazardous and nonhazardous waste since before November 19, 1980 (EPA 1985). On August 5, 1986, the NCI facility submitted a closure plan for the Former Hazardous Waste Storage Area (SWMU 2) (IEPA 1988). On March 7, 1988, IEPA approved NCI's closure plan and withdrew the facility's Part A permit application (IEPA 1988).

The NCI facility has an operating permit (IEPA Application No. 73010299). The permit includes emission sources and air pollution control equipment for the facility's furnaces and baghouses. The expiration date of the permit is August 19, 1995 (IEPA 1990). Documentation of permit violations were not found in IEPA files.

On September 6, 1985, IEPA conducted a RCRA inspection of the NCI facility (IEPA 1985). Violations discovered during these inspections primarily involved paperwork.

One underground storage tank (UST) is located on site at the NCI facility. According to facility representatives, the UST is constructed of steel and has a capacity of 1,000 gallons. The UST was used to store gasoline from about 1975 to 1987. The Bellwood Fire Department performed a pressure test on the UST in 1987 and determined that the tank was not leaking. According to facility representatives, the UST was emptied and has not been used since the late 1980s. The pump to the tank has been disconnected (PRC 1993a).

Evidence of CERCLA activities conducted on site was not found.

2.6 ENVIRONMENTAL SETTING

This section describes the climate; flood plain and surface water; geology and soils; and groundwater in the vicinity of the facility.

2.6.1 Climate

The climate in Cook County is greatly influenced by Lake Michigan. The average daily high temperature in July is 72.2 °F and the average daily low temperature in January is 21.1 °F. The average annual temperature is 49.0 °F (USDA 1979).

The yearly mean precipitation for the county is 33.4 inches. Average snowfall is 38.3 inches, occurring between October and May (USDA 1979). Annual mean lake evaporation in the vicinity of Cook County is approximately 29.7 inches (USDC 1968). The 1-year, maximum 24-hour rainfall in the area is approximately 2.4 inches (USDC 1961). Winds are typically from the north-northeast in

winter and from the south in summer. Average wind speeds range from 8.1 to 12.1 miles per hour (USDC 1980).

2.6.2 Flood Plain and Surface Water

The area of the NCI facility is located outside the 500-year flood plain (FEMA 1981). The nearest surface water body, Addison Creek, is located 600 feet west of the facility. The Des Plaines River is located 1.6 miles east of the facility and is used for recreational purposes. Lake Michigan is located about 12 miles east of the facility. Lake Michigan is used as a source of municipal water and for recreational purposes. Surface water from the facility is discharged via storm sewers to the Metropolitan Water Reclamation District publicly-owned treatment works.

2.6.3 Geology and Soils

Surface soils in the area are classified as uniform, relatively impermeable silty or clayey till at least 20 feet thick. The soils have no evidence of interbedded sand and gravel (Berg and others 1984).

Regional geology for the area is classified by ISGS. Surface soils are underlain by about 320 feet of Silurian Age dolomites. Beneath the dolomites are four members of Ordovician Age: Maquoketa shale-dolomite, Galena-Platteville dolomite, St. Peter sandstone, and Oneota dolomite. The St. Peter sandstone is the only significant water bearing unit of Ordovician Age, and is about 900 feet below ground surface (bgs) in the region. Below the Ordovician system is the Cambrian system. It consists of the following three units: Trempealeau dolomite, Franconia sandstone and dolomite, and Ironton-Galesville sandstone. Of the Cambrian units, only the Ironton-Galesville sandstone produces significant quantities of water (ISGS 1943).

2.6.4 Groundwater

The city of Bellwood, located adjacent to the facility, draws 50 percent of its drinking water from three wells located between about 1 and 1.5 miles from the NCI facility. These wells are screened at depths between 1,490 and 1,900 feet below ground surface (PRC 1993b).

A shallow bedrock zone in northeastern Illinois underlies the glacial sediments and is mainly composed of Silurian dolomite. The upper boundary of this zone is the erosional surface of the bedrock, which is commonly obscured by glacial sediments, and the lower boundary is the upper Ordovician Maquoketa shale. Water produced from the dolomite is obtained from fractures and solution openings. The shallow bedrock aquifer zone receives some recharge locally from precipitation (Hughes and others 1966).

2.7 RECEPTORS

The facility occupies about 28 acres in an industrial and residential area of Melrose Park, Cook County, Illinois. Melrose Park has a population of about 20,860 (Rand McNally 1992).

The facility is bordered on the north by a Jewel Food Stores warehouse, on the east by 25th Avenue and a Public Storage warehouse, on the south by the C&NW Railroad and Handschy Industries, Incorporated, and on the west by an Indiana Harbor Belt Railroad yard (PRC 1993d). The facility is surrounded by an 8-foot, chain-link fence and a security guard is on duty 24 hours a day.

The nearest residential area is located one block east of the facility. The nearest surface water body, Addison Creek, is located about 600 feet west of the facility. The Des Plaines River, is located about 1.6 miles east of the facility and is used for recreational purposes. The nearest sensitive environment, Thatcher Woods Forest Preserve, is located adjacent to the Des Plaines River (USGS 1980).

Groundwater is not used as a municipal water supply by Melrose Park. Drinking water for Melrose Park is drawn from Lake Michigan located about 12 miles east of the facility (PRC 1993c).

Groundwater is used as a municipal water supply by the city of Bellwood located adjacent to the facility. Fifty percent of Bellwood's drinking water is drawn from three wells located between about 1 and 1.5 miles from the facility. The remaining 50 percent of Bellwood's water is Lake Michigan water purchased from Melrose Park (PRC 1993b).

3.0 SOLID WASTE MANAGEMENT UNITS

This section describes the 11 SWMUs identified during the PA/VSI. The following information is presented for each SWMU: description of the unit, dates of operation, wastes managed, release controls, history of documented releases, and PRC's observations. Figure 2 shows the SWMU locations.

SWMU 1

Electric Arc Furnace Baghouse Dust Accumulation Area

Unit Description: This unit is located outdoors, on concrete. It consists of a baghouse dust collector and a 15-cubic-yard roll-off box. The roll-off box is lined with plastic and is covered with a tarpaulin.

Date of Startup: This unit began operation in 1982.

Date of Closure: This unit is active.

Wastes Managed: This unit manages hazardous baghouse dust (D006) from the facility's electric arc furnace dust collectors. The facility generates about 250 cubic yards of D006 baghouse dust each year. Peoria Disposal Company removes the dust from the roll-off box about once each month.

Release Controls: This unit is located outdoors on concrete. The hazardous baghouse dust is initially collected in a bag directly connected to the baghouse dust discharge point. The bag is contained in an aluminum shed. When the bag is full, it is emptied into a roll-off box that is lined with plastic and has a tarpaulin fastened securely over the top of it.

History of Documented Releases: No releases from this unit have been documented. This unit is listed on the facility's operating permit (IEPA Application No. 73010299). Documentation of permit violations were not found in IEPA files.

Observations: This unit was active at the time of the VSI. Both the dust collector bag and roll-off box were partially filled with baghouse dust. The concrete floor of this unit was not cracked. PRC noted no evidence of release (see Photographs No. 1, 2, and 3).

SWMU 2 Former Hazardous Waste Storage Area

Unit Description: This unit was located outdoors on native soil. It measures about 20-by 125-feet and stored about 300 steel, 55-gallon drums. The drums contained hazardous D006 baghouse dust (Midland Ross 1984b). This unit was listed on the facility's 1984 Part A permit application as container storage (S01) of hazardous waste. Railroad ties are currently stacked in the area of this unit.

Date of Startup: This unit began operation in November 1980 (NCI 1985).

Date of Closure: This unit became inactive after mid-1981. IEPA approved RCRA closure of this unit on March 7, 1988 (IEPA 1988).

Wastes Managed: This unit managed baghouse dust (D006) from the facility's electric arc furnace baghouse. Baghouse dust (D006) was stored at this unit from November 1980 to mid-1981.

Release Controls This unit is located outdoors. Baghouse dust (D006) was collected in steel, 55-gallon drums. Drums were banded together in groups of four, covered with plastic, and placed on wooden pallets (NCI 1985).

History of Documented Releases: No releases from this unit have been documented.

Observations: This unit was inactive at the time of the VSI. Gravel was spread over the location of this unit. Three piles of railroad ties were stacked in

the area of this unit. PRC noted no evidence of release (see Photographs No. 4).

SWMU 3

Used Sand Accumulation Area

Unit Description: This unit is located outdoors on concrete. It consists of three or four 15-cubic-yard roll-off boxes.

Date of Startup: This unit began operation at some unknown time before 1975.

Date of Closure: This unit is active.

Wastes Managed: This unit manages nonhazardous used sand from moldings and nonhazardous baghouse dust from SWMU 4. The facility generates about 1,200 cubic yards of used sand each month. BFI disposes of the sand each weekday. BFI analyzes the used sand once every 3 years. The last analysis was conducted in January 1993 (PRC 1994).

Release Controls: In the spring of 1993, the facility installed concrete pad in the area of this unit. Prior to this time this unit was located on gravel. The roll-off boxes of this unit are not covered but the used sand is disposed of by BFI each weekday.

History of Documented Releases: No releases from this unit have been documented.

Observations: This unit was active at the time of the VSI. One roll-off box was partially filled with used sand. Two additional empty roll-off boxes were also in the area. A small amount of sand was spilled on the concrete near the partially filled roll-off box (see Photograph No. 5).

SWMU 4**Moldings Baghouse Dust Collector****Unit Description:**

This unit is located indoors on a concrete floor in an area about 10- by 10-feet. The dust collector is made up of a plastic bag attached to the bottom of a baghouse located in the moldings area. The plastic bag is contained in a 1-cubic-yard hopper. When the plastic bag is full, it is removed to SWMU 3 for disposal by BFI.

Date of Startup:

This unit began operation in the early 1970s.

Date of Closure:

This unit is active.

Wastes Managed:

This unit manages nonhazardous baghouse dust from the moldings production area of the NCI facility. This unit generates about 20 cubic yards of baghouse dust monthly.

Release Controls:

This unit is located indoors on a concrete floor. The baghouse dust is collected in a plastic bag directly connected to the baghouse dust discharge point. The plastic bag is contained within a 1-cubic yard hopper.

**History of
Documented Releases:**

No releases from this unit have been documented.

Observations:

This unit was active at the time of the VSI. The plastic bag at the bottom of the baghouse was almost full. Some sand was on the floor in the area near this unit (see Photograph No. 6).

SWMU 5**Used Sand Storage Piles****Unit Description:**

This unit is located outdoors on native soil. It consists of two piles of used sand. One pile measures about 150- by 60- by 25-feet and is

made up of finer grained reusable sand. The second pile measures about 300- by 150- by 35-feet and cannot be reused by the facility.

Date of Startup: This unit began operation in 1991.

Date of Closure: This unit is active.

Wastes Managed: This unit manages nonhazardous used sand from the facility's moldings. The facility began accumulating the used sand in 1991 and continued accumulation for about 1 year. Currently, the sand from the larger pile is being disposed of in small loads by BFI. During 1993, BFI disposed of about 75 15-cubic-yard loads of sand. The facility plans to continue removal until the larger pile has been completely removed. The facility anticipated the installation of a sand reclaiming unit in 1994 or 1995. Upon installation, the smaller pile of sand will be reclaimed for use by the facility.

Release Controls: No release controls for this unit were apparent, but portions of the sand piles are vegetated. According to facility representatives even on windy days this unit does not pose a dust problem.

History of Documented Releases: No releases from this unit have been documented.

Observations: This unit was active at the time of the VSI. Vegetation was apparent on portions of both piles (see Photographs No. 7 and 8). A road created by trucks was evident on the larger of the two piles. Some miscellaneous debris and nine 55-gallon, steel drums placed on wooden pallets were noted along this road. Six of the drums contained debris for disposal such as used sand. Three of the drums contained reusable scrap metal (see Photograph No. 9). According to

facility representatives this area has been used for miscellaneous debris and some scrap metal since the spring of 1993.

SWMU 6

Slag Accumulation Area

Unit Description:

This unit consists of a 15-cubic-yard roll-off box located indoors on a concrete floor. Slag is removed from the slag cooling pit adjacent to this unit and is accumulated in the roll-off box. When the roll-off box is filled, the contents are disposed of by BFI.

Date of Startup:

This unit began operation on an unknown date before 1975.

Date of Closure:

This unit is active.

Wastes Managed:

This unit manages nonhazardous slag and waste firebrick. The NCI facility generates about 15 cubic yards of slag monthly.

Release Controls:

This unit is located indoors on a concrete floor and slag is accumulated in a steel roll-off box.

**History of
Documented Releases:**

No releases from this unit have been documented.

Observations:

This unit was in operation at the time of the VSI. The roll-off box was partially filled with slag. PRC noted some slag on the floor near this unit (see Photograph No. 10).

SWMU 7

Shot Cleaning Accumulation Areas

Unit Description:

This unit collects wastes generated by two shot cleaning machines. This unit consists of two 1-cubic-yard roll-off boxes, plastic bags attached to the bottom of two baghouses, and a 15-yard roll-off box.

Newly molded steel castings are placed in the shot cleaning machines to remove any sand and slag which remains on the casting. The sand and slag are removed by bombarding the casting with steel pellets. This process generates sand and slag which are collected in a 1-cubic-yard hopper and a fine nonhazardous dust which is collected by a baghouse. The hopper which collects the sand and slag is located indoors on a concrete floor. The baghouse associated with each shot cleaning machine is located outdoors near the shot cleaning machine. Dust from each baghouse is collected in a plastic bag attached to the bottom of the baghouse. The plastic bag from one shot cleaning machine is contained in an aluminum shed. The baghouse dust from the second shot cleaning machine is discharged into a plastic bag contained in a 1-cubic-yard hopper located indoors. When the bags are full they are replaced and disposed of in a 15-cubic-yard roll-off box located outdoors adjacent to the aluminum shed housing the plastic bag of one of the baghouses. The sand and slag generated by the shot cleaning process and collected in 1-cubic-yard hoppers is also disposed of in the roll-off box.

Date of Startup:	This unit began operation on an unknown date before 1975.
Date of Closure:	This unit is active.
Wastes Managed:	This unit manages nonhazardous used sand, slag, and baghouse dust. This unit generates about 130-cubic yards of nonhazardous waste each year.
Release Controls:	The nonhazardous baghouse dust is initially collected in plastic bags directly connected to the baghouse dust discharge points. The plastic bag from one of the baghouses of this unit is contained in a 1-cubic-yard hopper located indoors on concrete. The plastic bag of the second baghouse of this unit is contained in an aluminum shed

located outdoors. The 1-cubic-yard hoppers of this unit which collect sand and slag are located indoors on concrete. The 15-cubic-yard roll-off box of this unit is located outdoors on a bed of gravel. The 15-cubic-yard roll-off box is not covered but the nonhazardous baghouse dust disposed of in it is in plastic bags.

**History of
Documented Releases:**

No releases from this unit have been documented.

Observations:

This unit was active at the time of the VSI. The 1-cubic-yard hopper of this unit was partially filled with used sand and slag. The plastic bag at the bottom of the baghouse was partially filled. The 15-cubic-yard roll-off box was empty. PRC noted no evidence of release (see Photograph No. 11).

SWMU 8

Air Compressor Used Oil Satellite Accumulation Area

Unit Description:

This unit is located on a concrete floor in an aluminum shed measuring about 12- by 20-feet. This unit is a 55-gallon, steel drum which accumulates a nonhazardous water and used oil mixture from the facility's air compressor.

Date of Startup:

This unit began operation in 1990.

Date of Closure:

This unit is active.

Wastes Managed:

This unit manages a nonhazardous water and used oil mixture from the facility's air compressor. The NCI facility generates about 300 gallons of this water and used oil mixture each month. When the drum is full it is replaced and moved to SWMU 9 to be emptied by SET Environmental.

Release Controls: This unit is located in an aluminum shed on a concrete floor. A 5-inch wide and 3-inch high asphalt berm is located across the door to the shed.

History of Documented Releases: No releases from this unit have been documented.

Observations: This unit was active at the time of the VSI. PRC noted some staining and water on the floor of this unit (see Photograph No. 12).

SWMU 9 Current Used Oil Storage Area

Unit Description: This unit is located indoors on a concrete floor. The room housing this unit is about 10- by 30-feet and has three brick walls and one wooden wall. The floor is sunken to a level about 4 inches below the outside grade. No floor drains are located in this room.

Date of Startup: This unit began operation in 1992.

Date of Closure: This unit is active.

Wastes Managed: This unit manages a nonhazardous water and used oil mixture from the facility's air compressor and the small amount of oil generated from motor vehicle maintenance. SET Environmental has been contracted to pump the oil from the drums on an as needed basis. The NCI facility generated 300 gallons of used oil in 1992.

Release Controls: This unit is located indoors in a room where the concrete floor is sunken to a level about 4 inches below the outside grade.

History of Documented Releases: No releases from this unit have been documented.

Observations: This unit was inactive at the time of the VSI. There were 10 empty 55-gallon, steel drums in this unit. PRC noted no evidence of release (see Photograph No. 13).

SWMU 10 Former Used Oil Storage Area

Unit Description: This unit is located outdoors on native soil. It measures about 15- by 35-feet and stored about 60 steel drums.

Date of Startup: This unit began operation in 1990.

Date of Closure: This unit ceased operation in 1992.

Wastes Managed: This unit managed about 300 gallons of used nonhazardous oil from the facility's air compressor and the small amount of used nonhazardous oil generated from motor vehicle maintenance. When this unit ceased operation in 1992, SET Environmental Company of Wheeling, Illinois, removed the used oil for recycling. Following sampling conducted by IEPA, BFI removed stained soils in the area of this unit for landfilling.

Release Controls: This unit was located outdoors and had no apparent release controls. According to facility representatives, the steel drums of this unit were kept closed.

History of Documented Releases: A release from this unit has occurred, staining soil in the area. IEPA collected a sample of the stained soil. Analysis of this sample detected low levels of several volatile organic compounds and barium (IEPA 1992). IEPA requested no further action from the facility regarding the stained soil. BFI removed and disposed of about 25

cubic yards of visibly stained and unstained soils in 1992 (PRC 1993d).

Observations: This unit was inactive at the time of the VSI. Gravel was spread over the location of this unit. PRC noted no evidence of release (see Photograph No. 14).

SWMU 11

Former Incinerator

Unit Description: This unit was located outdoors. This unit was used to incinerate nonhazardous waste generated by general facility operations.

Date of Startup: This unit began operation at some unknown date before 1980.

Date of Closure: According to facility representatives, this unit ceased operations at some unknown date before 1980. This unit was removed in 1991 or 1992.

Wastes Managed: According to facility representatives, this unit was used to incinerate nonhazardous trash and rubbish generated by the facility.

Release Controls: This unit was located on concrete. Information on other release controls for this unit was not found during the PA/VSI.

History of Documented Releases: No releases from this unit have been documented.

Observations: This unit was inactive at the time of the VSI. The area of this unit is currently covered with concrete. PRC noted no evidence of release (see Photograph No. 15).

4.0 AREAS OF CONCERN

PRC identified no AOCs during the PA/VSI.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The PA/VSU identified 11 SWMUs and no AOCs at the NCI facility. Background information on the facility's location; operations; waste generation and management; history of documented releases; regulatory history; environmental setting; and receptors is presented in Section 2.0. SWMU-specific information, such as the unit's description, dates of operation, wastes managed, release controls, history of documented releases, and observed condition, is presented in Section 3.0. Following are PRC's conclusions and recommendations for each SWMU. Table 3, located at the end of this section, summarizes the SWMUs at the facility and the recommended further actions.

SWMU 1 Electric Arc Furnace Baghouse Dust Accumulation Area

Conclusions: This unit manages hazardous baghouse dust (D006) in a lined and covered 15-cubic-yard roll-off box. No releases from this unit have been documented. Because this unit is located on concrete, lined with plastic, and covered with a tarpaulin, there is a low potential for release to groundwater, surface water, air, and on-site soils.

Recommendations: PRC recommends no further action for this SWMU at this time.

SWMU 2 Former Hazardous Waste Storage Area

Conclusions: This unit managed hazardous baghouse dust (D006) in 55-gallon drums. No releases from this unit have been documented. Because this unit is inactive and underwent RCRA closure in 1988, there is a low potential for release to groundwater, surface water, air, and on-site soils.

Recommendations: PRC recommends no further action for this SWMU at this time.

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SWMU 3

Used Sand Accumulation Area

Conclusions: This unit manages nonhazardous used sand in 15-cubic-yard roll-off boxes. No releases from this unit have been documented. Because this unit manages only nonhazardous wastes, is located on concrete, and the contents of this unit are disposed of each weekday by BFI, there is a low potential for release to groundwater, surface water, air, and on-site soils.

Recommendations: PRC recommends no further action for this SWMU at this time.

SWMU 4

Moldings Baghouse Dust Collector

Conclusions: This unit manages nonhazardous baghouse dust from the moldings production area in a plastic bag contained in a hopper. No releases from this unit have been documented. Because this unit manages only nonhazardous wastes and is located indoors on a concrete floor, there is a low potential for release to groundwater, surface water, air, and on-site soils.

Recommendations: PRC recommends no further action for this SWMU at this time.

SWMU 5

Used Sand Storage Piles

Conclusions: This unit manages nonhazardous used sand in two piles. No releases from this unit have been documented. Because this unit manages only nonhazardous wastes, the piles are partially vegetated, and the facility is making efforts toward removal, there is a low potential for release to groundwater, surface water, air, and on-site soils.

Recommendations: PRC recommends no further action for this SWMU at this time.

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SWMU 6

Slag Accumulation Area

Conclusions: This unit manages nonhazardous slag in a 15-cubic-yard roll-off box. No releases from this unit have been documented. Because this unit is located indoors on a concrete floor, there is a low potential for release to groundwater, surface water, air, and on-site soils.

Recommendations: PRC recommends no further action for this SWMU at this time.

SWMU 7

Shot Cleaning Accumulation Areas

Conclusions: This unit manages nonhazardous sand, slag, and baghouse dust. The sand and slag are managed in 1-cubic yard hoppers and the baghouse dust in plastic bags. The sand, slag, and baghouse dust are moved to a 15-cubic-yard hopper for disposal. No releases from this unit have been documented. Because this unit manages only nonhazardous wastes and the baghouse dust managed by this unit is disposed of in a plastic bag, there is a low potential for release to groundwater, surface water, air, and on-site soils.

Recommendations: PRC recommends no further action for this SWMU at this time.

SWMU 8

Air Compressor Used Oil Satellite Accumulation Area

Conclusions: This unit manages a nonhazardous water and used oil mixture in a 55-gallon drum. No releases from this unit have been documented. Because this unit is located indoors on a concrete floor, there is a low potential for release to groundwater, surface water, air, and on-site soils.

Recommendations: PRC recommends no further action for this SWMU at this time.

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SWMU 9

Current Used Oil Storage Area

Conclusions:

This unit manages a nonhazardous water and used oil mixture in 55-gallon drums. No releases from this unit have been documented. Because this unit is indoors on a concrete floor which is about 4 inches below the outside grade, there is a low potential for release to groundwater, surface water, air, and on-site soils.

Recommendations:

PRC recommends no further action for this SWMU at this time.

SWMU 10

Former Used Oil Storage Area

Conclusions:

This unit managed a nonhazardous water and used oil mixture. A release from this unit has occurred, staining soil in the area. IEPA collected a sample of the stained soil. Analysis of this sample detected low levels of several volatile organic compounds and barium. IEPA requested no further action from the facility regarding the stained soil. BFI removed and disposed of about 25 cubic yards of visibly stained and unstained soils in 1992. Because this unit is inactive and soil in the area was disposed of by BFI, there is a low potential for release to groundwater, surface water, air, and on-site soils.

Recommendations:

PRC recommends no further action for this SWMU at this time.

SWMU 11

Former Incinerator

Conclusions:

This unit managed nonhazardous trash and rubbish generated by facility activities. Because this unit no longer exists, there is a low potential for release to groundwater, surface water, air, and on-site soils.

Recommendations:

PRC recommends no further action for this SWMU at this time.

TABLE 3
SWMU SUMMARY

<u>SWMU</u>	<u>Dates of Operation</u>	<u>Evidence of Release</u>	<u>Recommended Further Action</u>
1. Electric Arc Furnace Baghouse Dust Accumulation Area	November 1982 to present	None	None
2. Former Hazardous Waste Storage Area	November 1980 to mid-1981; RCRA closed	None	None
3. Used Sand Accumulation Area	Unknown date before 1975 to present	None	None
4. Moldings Baghouse Dust Collector	Early 1970s to present	None	None
5. Used Sand Storage Piles	1991 to present	None	None
6. Slag Accumulation Area	Unknown date before 1975 to present	None	None
7. Shot Cleaning Accumulation Areas	Unknown date before 1975 to present	None	None
8. Air Compressor Used Oil Satellite Accumulation Area	1990 to present	None	None
9. Current Used Oil Storage Area	1992 to present	None	None

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TABLE 3 (Continued)

SWMU SUMMARY

<u>SWMU</u>	<u>Dates of Operation</u>	<u>Evidence of Release</u>	<u>Recommended Further Action</u>
10. Former Used Oil Storage Area	1990 to 1992	Stained soil which was removed and disposed of in 1992	None
11. Former Incinerator	Unknown period of time before 1980	None	None

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APPENDIX A
VISUAL SITE INSPECTION SUMMARY AND PHOTOGRAPHS
(Nine Pages)

VISUAL SITE INSPECTION SUMMARY

National Castings Incorporated (NCI)
110 North 25th Avenue
Melrose Park, Illinois 60160
ILD 072 317 761

Date: August 4, 1993

Primary Facility Representative: Jerry Farmer, Safety Manager, NCI
Representative Telephone No.: (708) 344-0675
Additional Facility Representatives: Walter Anderson, Safety Engineer, NCI
Edward Stanch, Foundry Manager, NCI

Inspection Team: Sandy Anagnostopoulos, PRC Environmental Management,
Inc. (PRC)
Peggy Flaherty, PRC

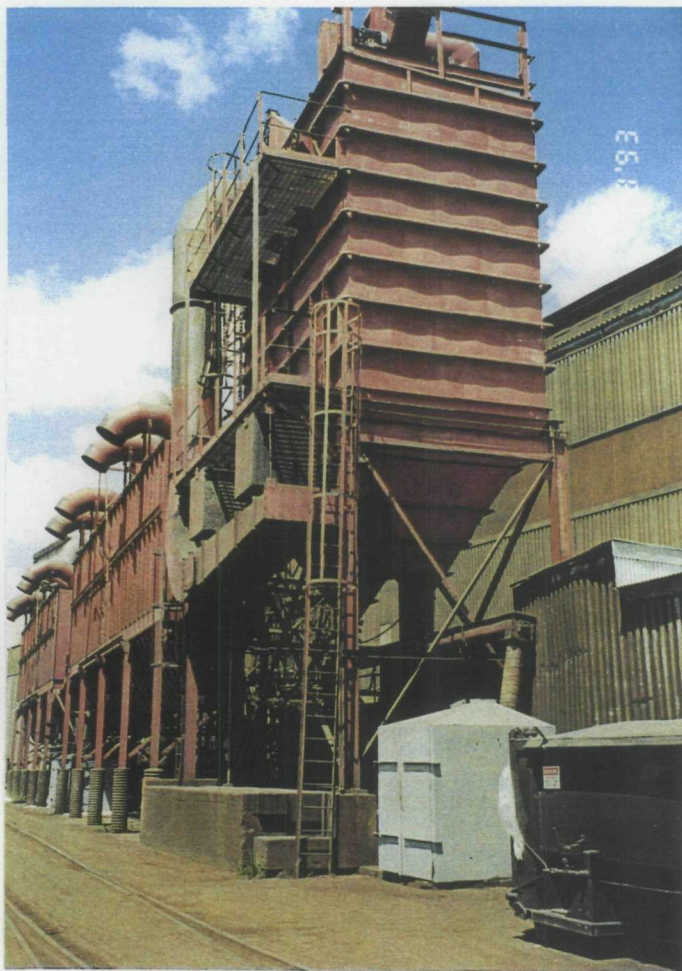
Photographer: Peggy Flaherty, PRC

Weather Conditions: Sunny, approximately 70 °F.

Summary of Activities: The visual site inspection (VSI) began at 9:20 a.m. with an introductory meeting. The inspection team explained the purpose of the VSI and the agenda for the visit. Facility representatives then discussed the facility's past and current operations, solid wastes generated, and release history. Facility representatives provided the inspection team with copies of requested documents.

The VSI tour began at 11:00 a.m. PRC observed the following solid waste management units (SWMU): Electric Arc Furnace Baghouse Dust Accumulation Area (SWMU 1), Former Hazardous Waste Storage Area (SWMU 2), Used Sand Accumulation Area (SWMU 3), Moldings Baghouse Dust Collector (SWMU 4), Used Sand Storage Piles (SWMU 5), Slag Accumulation Area (SWMU 6), Shot Cleaning Accumulation Areas (SWMU 7), Air Compressor Used Oil Satellite Accumulation Area (SWMU 8), Current Used Oil Storage Area (SWMU 9), Former Used Oil Storage Area (SWMU 10), and Former Incinerator (SWMU 11).

The tour concluded at 2:40 p.m., after which the inspection team held an exit meeting with facility representatives. The VSI was completed and the inspection team left the facility at 2:50 p.m.



Photograph No. 1

Location: SWMU 1

Orientation: Northwest

Date: 08/04/93

Description: This photograph shows the baghouses, dust collector, and roll-off box in the electric arc furnace area.

Photograph No. 2

Location: SWMU 1

Orientation: North

Date: 08/04/93

Description: This photograph shows the dust collector attached to the bottom of the baghouse in the electric arc furnace area.





Photograph No. 3

Orientation: Northwest

Description: This photograph shows the dust collector and roll-off box in the electric arc furnace area.

Location: SWMU 1

Date: 08/04/93



Photograph No. 4

Orientation: Southwest

Description: This photograph shows the Former Hazardous Waste Storage Area. Two piles of railroad ties are stacked in the area.

Location: SWMU 2

Date: 08/04/93



Photograph No. 5

Orientation: North

Description: This photograph shows the Used Sand Accumulation Area.

Location: SWMU 3

Date: 08/04/93



Photograph No. 6

Orientation: North

Description: This photograph shows the Moldings Baghouse Dust Collector.

Location: SWMU 4

Date: 08/04/93



Photograph No. 7

Orientation: West

Description: This photograph shows the smaller of the Used Sand Storage Piles.

Location: SWMU 5

Date: 08/04/93



Photograph No. 8

Orientation: Northwest

Description: This photograph shows the larger of the Used Sand Storage Piles.

Location: SWMU 5

Date: 08/04/93



Photograph No. 9

Orientation: North

Description: This photograph shows drums located at the Used Sand Storage Piles.

Location: SWMU 5

Date: 08/04/93



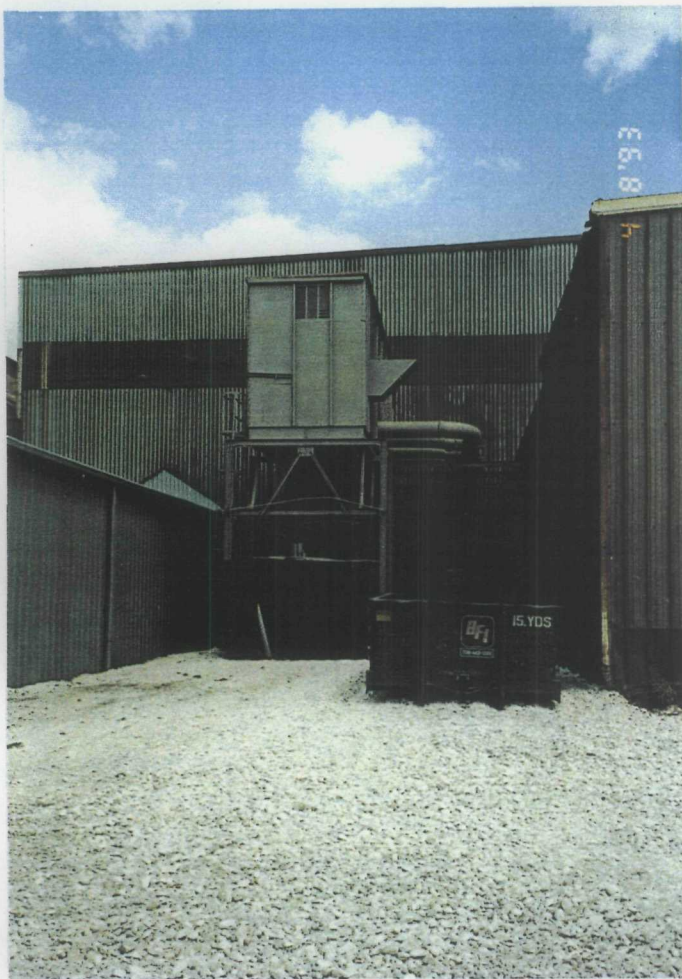
Photograph No. 10

Orientation: Northwest

Description: This photograph shows the Slag Accumulation Area.

Location: SWMU 6

Date: 08/04/93



Photograph No. 11
 Location: SWMU 7
 Orientation: East
 Date: 08/04/93

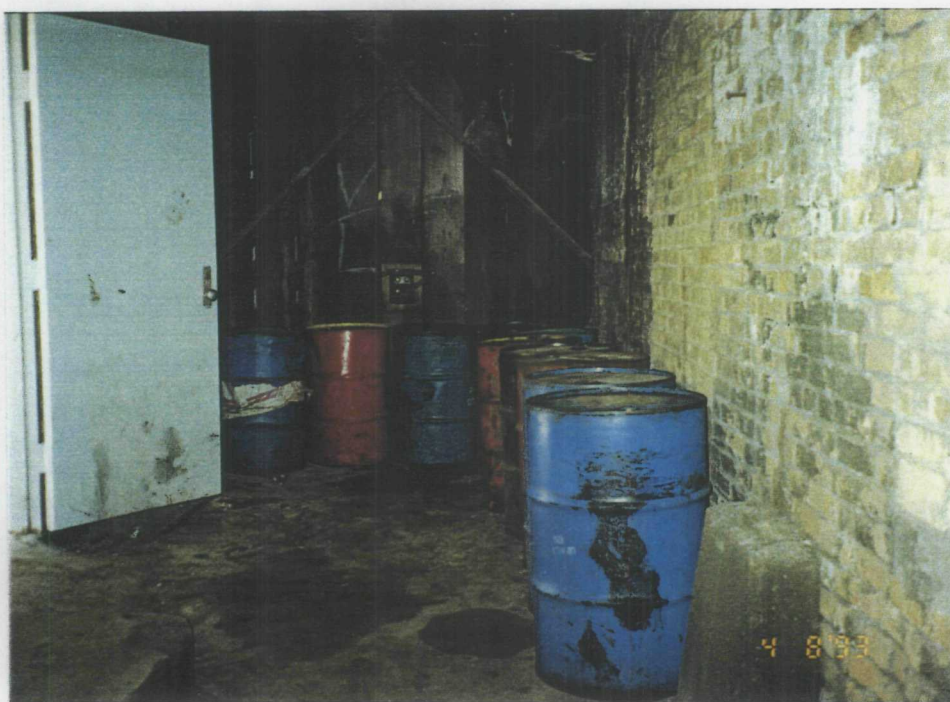
Description: This photograph shows one of the shot cleaning baghouses, the dust collectors, and the roll-off box in the Shot Cleaning Accumulation Areas.



Photograph No. 12
 Orientation: West

Location: SWMU 8
 Date: 08/04/93

Description: This photograph shows the Air Compressor Used Oil Satellite Accumulation Area.



Photograph No. 13

Orientation: East

Description: This photograph shows the Current Used Oil Storage Area.

Location: SWMU 9

Date: 08/04/93



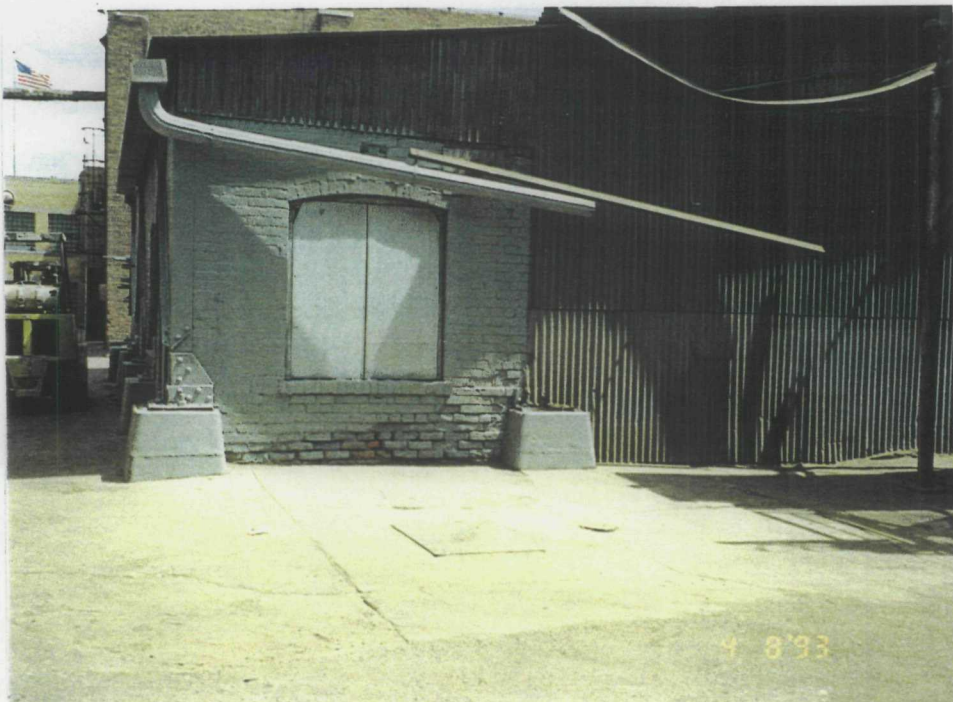
Photograph No. 14

Orientation: South

Description: This photograph shows the Former Used Oil Storage Area.

Location: SWMU 10

Date: 08/04/93



Photograph No. 15

Orientation: East

Description: This photograph shows the location of the Former Incinerator.

Location: SWMU 11

Date: 08/04/93

APPENDIX B
VISUAL SITE INSPECTION FIELD NOTES
(16 Sheets)

August 4, 1993 Wednesday (19)

National Castings Inc.

Melrose Park

Weather Conditions:

clear ~ 70°

0920 On-site meeting

Shirley A. (PRC)

Doc Flaherty (PRC)

Jerry Farmer (NCI)

Walter Anderson (NCI)

Couplers use
a higher alloy
content than

Cicero plant so
baghouse is still
DOOB with some
lead to. Lead not

— 21/10/93

(120) 8/4/93 NCI

on Part A but
goes on manifest.

DOOB is just baghouse
which goes to
Perica (see permit)

20 yd³/month aa
1992 - 270 yd³ listed
as DOOB and DOOB
PDI treats and
disposes.

slag & coes go
to BFI

~~2/8/93~~ aa
8/4/93

8/4/93 NCI (121)

Operating since
maybe 19⁶⁹68-1985
(checking) as
Midland Ross.
from Part A.
Midland Ross
purchased from
unknown. Part
of the facility
dates back to
early 1900s.

As of 1985 NCI is
wholly owned
subsidiary of NACO.

(122)

8/4/93 NCI

Nearest Res. w/in
~ 1/4 to 1/2 mile.

Dec 1981 - closed
In 1982 to 1983
plant closed to
because of lack
of business.

~ 340 employees
3 shifts at 5 days
varies w/ different
operations.

Security guard
24 hours and
completely fenced

8/4/93 NCI

(123)

Former lay waste
mixing area
was 55
gal drums w/
plastic and
was shipped out.

Had been mixing
baghouse dust
w/ foundry sand
and sending it
to landfill prior
to 1980.

Currently RR ties
are stacked at
former stor. area

(124)

Have 2 piles of sand. Spent and reclaim sand. This plant doesn't have a ^{sand} reclaimer (like Cicero). so was disposing of more. Will purchase reclaimer is next year. so can reuse more of spent sand.

All scrap metal is reused on site

(125)

Det. Environmental (wheeling) picks up used oil from air compressors. ~ 2300 gal/yr. on call in basis. Have to have at least 2100 gall. for det. to come in.

Used trichloroethane 1,1,1 for core wash never had to dispose of it because some of the solvent would absorb into core when casting was

(126)

made it would
evaporate

Disch. AST for
vehicles 200 gal, steel
installed 1996.

An UST under
parking lot installed
in 1975 galvanized
steel coated w/
asphalts (1000 gal).
Had about 6 months
ago for rep.
measured amount
of gasoline in UST.
Found ~ 80 gallons.
stopped use ~ early '80's.

(127)

← Currently use a
water based
core wash.

Incinerator
ceased use in
~ 1980. don't
know a start up
date. Was
removed in '92.

Water in grease
tank never
dumped. It
is pumped to
a holding pit.
Tank is cleaned
and make-up H₂O

(128)

add. MSP checks
sewer discharge
annually.

IEPA out in '92
collected samples
from baghouses
and sandpiles.
Have not heard
about results.

1100 Tons begins
Ed Stained
joins us - foundry
operations manager

(129)

use ~ 200 tons sand
per day - reclaim
about 90%

mold is sand, water,
bentonite, cereal flour.

cores sand silicate
are reused and put
back into sand
system if can get
fine enough.

Photo 1 Baghouse 1
Photo 2 Bag from B1
Dry collector
non-hazardous
is the fines of

(130)

sand used for
moldings. Too
fine. Sand in
molding leads
to poor quality.

This goes to BFT
② Photo 3. Pump
Baghouse Collector
hopper
~ 1960-70 early

~ 150 castings/day
from ~ 120 tonnes
day

(131)

~ 70% scrap purchased
30% from on-site
reuse.

Photo 4 scrap
storage area
~ 100' x 30' been
in use since
at least '75
and probably
since start of
operation.

electric
furnace
20 ton capacity.

13000 W. input
transformer which
is water cooled

(132)

along w/ a ring
around the roof
of the furnace.

furnace lined
w/ fire brick.
replaced
one a year to
year and a half.
brick goes to BFI

Purchase low
alloy and then
add alloys
chromium, ~~nickel~~
silicon, manganese
molybdenum, alum.
as needed

(133)

3 Baghouses
32 collects
dust from furnace
area.

1 collects from
above the furnace
and 2 collect
from the sidedraft
hood of the furnace.

This collects
dust and heat
from the furnace
while operating.
Baghouse above
collects anything
other 2 missed

In all 3 B's about
2000 bags get changed

(134)

about once every
3 years. Probably
change one B at a
time. Those bags
go to ~~Peoria~~^{Peoria} ~~BFI~~^{ae}. Bagged
before hand.

Photo 5 Baghouse (NW)

Photo 6 Peoria dumpster
(NW)

Photo 7 Baghouse collect
bag (N). Bag opens
at bottom is lifted
to dumpster and
Baghouse dust
placed directly

(135)

into lined hopper
(20 yd³).
Bags dumped every
1 or 2 days.

Peoria on call in
basis ~ 14 times
per year.

Photo 8 2 sidedraft
baghouses (NW)

Baghouse dust
went to BFI from
'80-'84, and then
a couple of other
disposal companies
Gerry will check

(136)

aa
BFI

Photo 9 ^{aa} ~~A~~ refuse
sand is shakedown
sand (too large
for use) from
cores and molding.
(all mixed together
again).

Some of scrap &
bentonite comes in
by rail so its
weighted.

Mixing area
currently covered
w/ gravel. no

(137)

evidence of ^{aa} ~~the~~ release

3 piles of railroad
ties stacked neatly
Facility reps
looking into
disposal.

from rerouting
of a railway.

Bughouse dust
was only stored
in drums in
hazard waste area
from 80-81 when
plant closed.

Then when reopened

(138)

started current method.

Jac. reps aren't aware of any mixing of slag or wastes in this area.

Pile to reclaim:
50 yds x 20 yds
~ 25 ft high.

Photo 10 (NW)
some vegetation.

weather today
clear, ~ 70°F, breezy

(139)

No apparent dust problems from this pile or nest.

Another pile of spent sand, too coarse to use
~ 100 yds x 50 yds
x 35 ft high.

Photo 11 (NW) Can't be reused is being shipped to B.F.I. in last year have sent off ~ 75 loads of 15 to 20 yds³

Started stowing

(140)

in piles in '91
and piled ~ 1 year.
until sand
reclaimer is in
operation sand
will and is
being disposed of
by BFI.

Photo 12 9 steel
55 gal drums
some hold unusable
sand, grind wheels,
shot blast, some
general debris.
~~Out~~ 3 of drums
will be lifted and
reused as scrap

(141)

or shot blast.
been using this
area since spring
of '93.

Photo 13 Old oil
storage area from
1990 to 1992. After
IEPA sampled moved
indoors. Stored oil
in drums about
60 steel drums
sat on wood pallets.
10' x 25'. Set
took oil then
BFI came and
"cleaned up" area.
Removed stained

(142)

soil. Gabrielle
split samples
w/ IEPA in '92
for NCI.

Photo ④ 3 or 4 hoppers
which collect
broken cores and
unusable sand
goes off to BFI
currently all on
concrete. Since
at least 1975
and probably
since start of
operation. Concrete
went in during
'spring 93.

(143)

Photo 15 (E). Storage rack
for lub. oil. 8
drums. 12' by 12'
pig surrounds
area. Some evidence
of possible spill.
Pig would be
put in drum and
let would take it.
since 1990. No
drains in area.
→ waste oil area.

Photo 16 Diesel AST
1991. Have had some
spillage due to
leaking valve which

(144)

was replaced.
Spill onto concrete
lower ~ 30 ft's aa
100'

Photo 17 used oil from
air compressor
~~ancrepion~~ sloped towards
an asphalt dike
~ 5" wide & 3" high.
skimming oil of
since 1990. Prior
to 1990 no leaks
in valves so didn't
have oil problem.
Air compressor used
to operate various
equipment.

(145)

Room house air
compressor in aluminum
sheeting ~ 12' x 20'

Photo 18 Incinerator
removed in 91 or 92
don't know when
installed. stopped
operation prior to '80
currently ~~so~~ concrete.

Photo F: 10' x 30'
under roof 10
empty steel drums
no floor drains
concrete floor
In this location
since 92. This
room is recessed

(115)

~ 4" from outside ground level.

3 walls brick.
1 wall wooden w/ storage area for lawn mower etc. on other side

4 gas furnaces used to heat treat all castings at ~ 1700°F. (increases strength & impact ductility of casting)
Casting is then quenched in one of 2 quench tanks at 80-100°

(147)

~ 15' x 20' x 15'

Water from quench tanks into pit. Photo 20.
slag removal earlier.

Photo 21 -
slag pit ~ 10' x 15' x 6'. Pour slag into pit (concrete). Slag cools & is removed to hopper goes to BFI as special waste Photo 20

(148)

Photo 22 Baghouse
from shot blast
area into plastic
bag. changed in
every 3 days.
dumpster ~ 1/month
operating since
prior to '75.

Photo 25 coloroid.
fines from
turn blast process
go to dumpster
to BFI since
1976.

(149)

Photo 26 coloroid
UST

^{at}
2 1440 Tour complete
Back to office
for closing mtg.

1440:00 Reoia AA.
Baghouse dust

1450 PRC off site